UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,549	01/29/2004	Richard L. Maile	15991.3.1	5096

7590 12/15/2004

John M. Guynn
WORKMAN, NYDEGGER & SEELEY
1000 Eagle Gate Tower
60 East South Temple
Salt Lake City, UT 84111

EXAMINER	
SALDANO, LISA M	

ART UNIT	PAPER NUMBER
3673	

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/767,549	MAILE ET AL.	
	Examiner	Art Unit	
	Lisa M. Saldano	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/28/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 8 and 9 are objected to because of the following informalities:

Regarding claims 8 and 9, line 2, the applicant recites limitations directed to "said endosperm." However, prior claim language from which this limitation depends fails to mention endosperm. Appropriate correction is required.

2. Claim 18 is objected to as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "a more highly processed fiber" in claim 18 is a relative term which renders the claim indefinite. The term "more highly processed fiber" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686

F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-45 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-43 of copending Application No. 10767320. Although the conflicting claims are not identical, they are not patentably distinct from each other because they both claim a particle binding material with water; a carbohydrate; a protein; an iron compound; a strong base and pH adjustor.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims 1-45 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1-37 of copending Application No. 10723999. Although the conflicting claims are not identical, they are not patentably distinct from each other because they both claim a particle binding material with water; a carbohydrate; a protein; an iron compound; a strong base and fibrous material.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 2, 11-14, 16-23, 26-28, 31-33, 38-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krieger (3,763,072) in view of Kasai (JP-11061120), Seymour (2,978,312), Wilson (5,129,936) and Haile (6,777,465).

Krieger discloses a method of treating soil to prevent wind and water erosion thereof and a composition to effect such treatment (see column 2, lines 25-30). Krieger discloses that the invention provides a method and composition for erosion and dust control of soil by providing a relatively thick impervious or semi-impervious crust on the soil (see column 2, lines 45-50). Krieger further discloses that the method can be practiced employing seed and/or fertilizer in the slurry to promote germination and vegetation growth (see column 10, lines 8-18). Krieger discloses that the method can be used in hydro-seeding and hydro-mulching. The composition may be used with a mulch, preferably a mulch of fibrous natural products (fibrous natural products inherently comprising a carbohydrate). The composition mixture is mixed with water to form an aqueous solution formulated with a fibrous mulch and hydraulically applied to the soil surface (see column 3, lines 55-70). Examples of the fibrous mulch include wood fiber hay, straw, cottonseed hull and the like. The disclosures of these various fibers does not preclude the

use of fibers that promote adhesion to soil and facilitate emergence of sprouted seeds, such as coarse and/or highly processed fibers. Krieger discloses that a hydraulic applicator device such as a Finn Hydro-seeder or a Bowie Hydro-Mulcher can apply the aqueous slurry or mixture. Krieger discloses that the aqueous composition can be applied by either spraying, flooding or brushing.

Regarding claim 2, Krieger discloses a solids content in the aqueous solution of about 0.8-2 percent (see column 3, lines 65-70).

However, Krieger fails to explicitly disclose that the composition, which alternatively comprises a fertilizer, includes a protein, iron compound and strong base. Krieger also fails to disclose a pH adjustor.

Kasai discloses production of a soil improver comprising fertilizing components contributing to the growth of organisms selected from minerals, carbohydrates, proteins and other components.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition suggested by Krieger to comprise proteins, as taught by Kasai, because proteins improve a soil and contribute to its capability to promote the growth of organisms.

Seymour discloses processes for producing fertilizers and products thereof. Seymour discloses that novel and valuable fertilizer products may be produced by means of water-soluble strong bases (see column 1, lines 45-48).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition suggested by Krieger to incorporate strong bases because, as suggested by Seymour, the strong bases provide valuable fertilizing products in growth media.

Wilson discloses the use of iron oxides and iron compounds including ferrous and ferric oxides, ferrosoferric oxides as fertilizers to produce fertilizing and soil conditioning properties (see abstract and column 2, lines 1-40).

Regarding claims 21-23, Wilson disclose the use of soluble iron and sulfur acid directly and indirectly in effecting desirable changes in the soil pH values (see column 2, lines 25-27). This broadly provides the capability to provides pH values in any ranges desirable.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition suggested by Krieger to incorporate iron compounds, as suggested by Wilson, because they provide valuable fertilizing products in growth media.

Haile discloses erosion controller and soil stabilizers comprising a composition mixed with water to form a sprayable slurry. Haile disclose that the slurry comprises fertilizer to enhance seedling development and fiber, such as paper or wood fiber to form an erosion control material. Haile discloses that the invention comprises a fiber slurry that may be used for hydro-seeding purposes.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Krieger to comprise highly processed fibers such as paper fibers, as suggested by Haile, because Krieger provides the motivation for incorporation of the fibers and Haile reinforces the use of highly processed fibers for soil improvement purposes.

Furthermore, regarding claims 13, 16 and 17, it would have been obvious to one of ordinary skill in the art to establish the optimal range of component concentration through routine experimentation. The applicant of the present invention has also failed to claim the criticality of the disclosed ranges.

Regarding claims 43-45, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the invention of Krieger to situations such as soil/ash at burn sites, denuded soil and ground rock, because Krieger broadly discloses the use of the method and composition for erosion and dust control of soil, which encompasses any of the aforementioned scenarios.

8. Claims 3-10, 29, 30 and 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krieger in view of Kasai, Seymour, Wilson and Haile, as applied to claim 1 above and further in view of Toyo (JP-2002068879-A) and Oji (JP-2004141147-A).

Krieger, Kasai, Seymour, Wilson and Haile disclose features as described above. Specifically, Haile discloses erosion controller and soil stabilizers comprising a composition mixed with water to form a sprayable slurry. Haile disclose that the slurry comprises fertilizer to enhance seedling development and fiber, such as paper or wood fiber to form an erosion control material. Haile discloses that the invention comprises a fiber slurry that may be used for hydro-seeding purposes. Wilson disclose the use of soluble iron and sulfur acid directly and indirectly in effecting desirable changes in the soil pH values (see column 2, lines 25-27). This broadly provides the capability to provides pH values in any ranges desirable.

However, Krieger, Kasai, Seymour, Wilson and Haile fail to disclose the use of a type or endosperm.

Toyo discloses material for formation of a fertilizer comprising an endosperm sublayer (see abstract).

Oji discloses fertilizer manufacture involving mixing plant components such as endosperm of grains or beans (see detained description). Grains, as broadly disclosed, does not preclude the use of wheat, rice barley, sorghum, etc.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Krieger, which includes a fertilizer, to comprise endosperm, as suggested by both Toyo and Oji, because endosperm are commonly used as a component for fertilizer manufacture as clearly evidenced by both Toyo and Oji.

Furthermore, regarding claims 6-10, it would have been obvious to one of ordinary skill in the art at the time of the invention to establish an optimum range of component concentrations and endosperm sources through routine experimentation. The applicant of the present invention has also failed to claim the criticality of the disclosed ranges.

9. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krieger in view of Kasai, Seymour, Wilson and Haile, as applied to claim 1 above and further in view of Novich et al (6,042,305)

Krieger, Kasai, Seymour, Wilson and Haile disclose features as described above. Specifically, Wilson discloses the use of compositions to adjust pH levels.

However, Krieger, Kasai, Seymour, Wilson and Haile fail to disclose that the pH adjustor comprises at least an organic acid.

Novich discloses a fiber reinforced soil mixture. Novich discloses that the pH of the soil mixtures can be adjusted by the addition of acidic material such as acetic acid (see column 16, lines 40-55).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Krieger to comprise a pH adjustor from acetic acid, as disclosed by Novich because both invention as directed to fiber reinforcement of soil. Furthermore, artisan would desire pH adjustability for soil particularly in light of what the soil would be used for after being treated with the disclosed admixture.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krieger in view of Kasai, Seymour, Wilson and Haile, as applied to claim 1 above and further in view Hauschild (3,907,538).

Krieger, Kasai, Seymour, Wilson and Haile disclose features as described above. Specifically, Seymour discloses processes for producing fertilizers and products thereof. Seymour discloses that novel and valuable fertilizer products may be produced by means of water-soluble strong bases (see column 1, lines 45-48).

However, Krieger, Kasai, Seymour, Wilson and Haile fail to disclose fertilizer with one of the alkali containing components disclosed by the applicant.

Hauschild discloses the production of alkali metal containing phosphate fertilizers including alkali-metal hydroxide (see abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Krieger to include alkali containing fertilizers because they have long been used in soil improving media, as evidenced by Hauschild.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Allan et al (4,560,400) disclose features that pertain to the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa M. Saldano whose telephone number is 703-605-1167. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather C. Shackelford can be reached on 703-308-2978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lms

HEATHER SHACKELFORD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600